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(54) **VIDEO SERVER SET**

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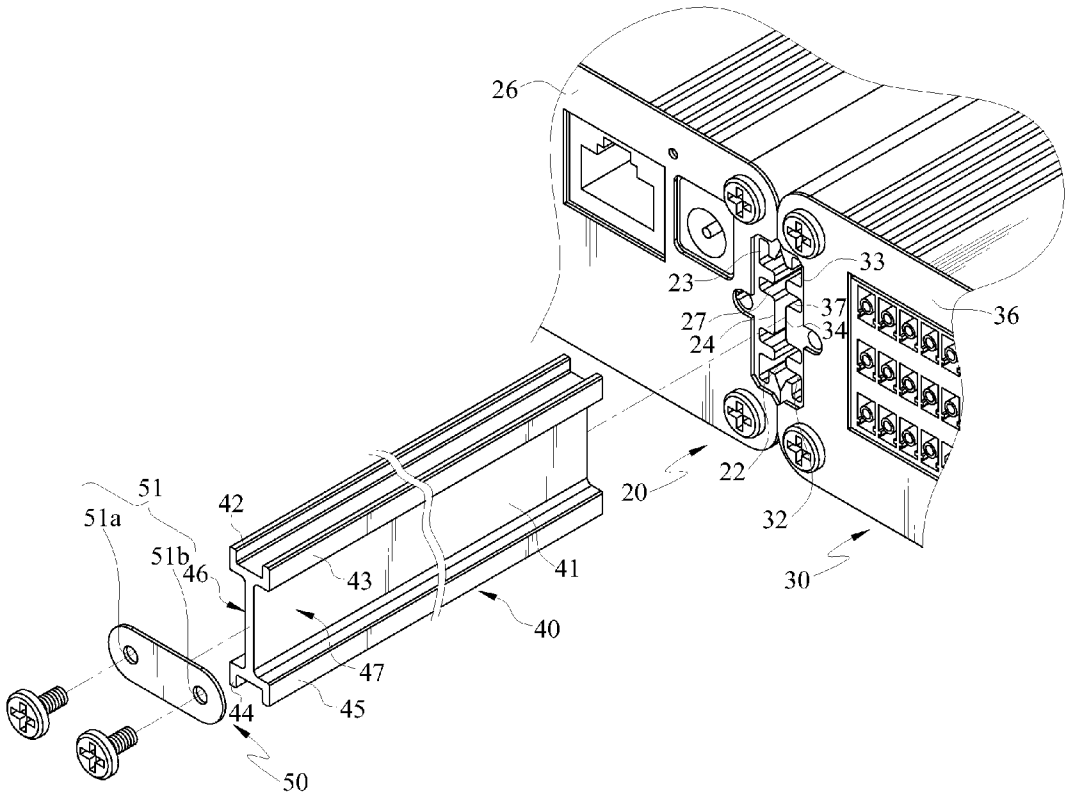
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(57) **ABSTRACT**

A server set includes a first video server, a second video server and a joint member. A first surface of the first video server has a first fastening groove, and the first fastening groove has a first chute portion and a first intermediate portion. The second video server has a second surface, in which the second surface has a second fastening groove, and the second fastening groove has a second chute portion and a second intermediate portion. A main body portion of the joint member corresponds to and is accommodated in the first intermediate portion and the second intermediate portion. A first hook portion and a second hook portion are accommodated in and hooked with the first chute portion and the second chute portion respectively, so that the first video server is connected with the second video server through the joint member.



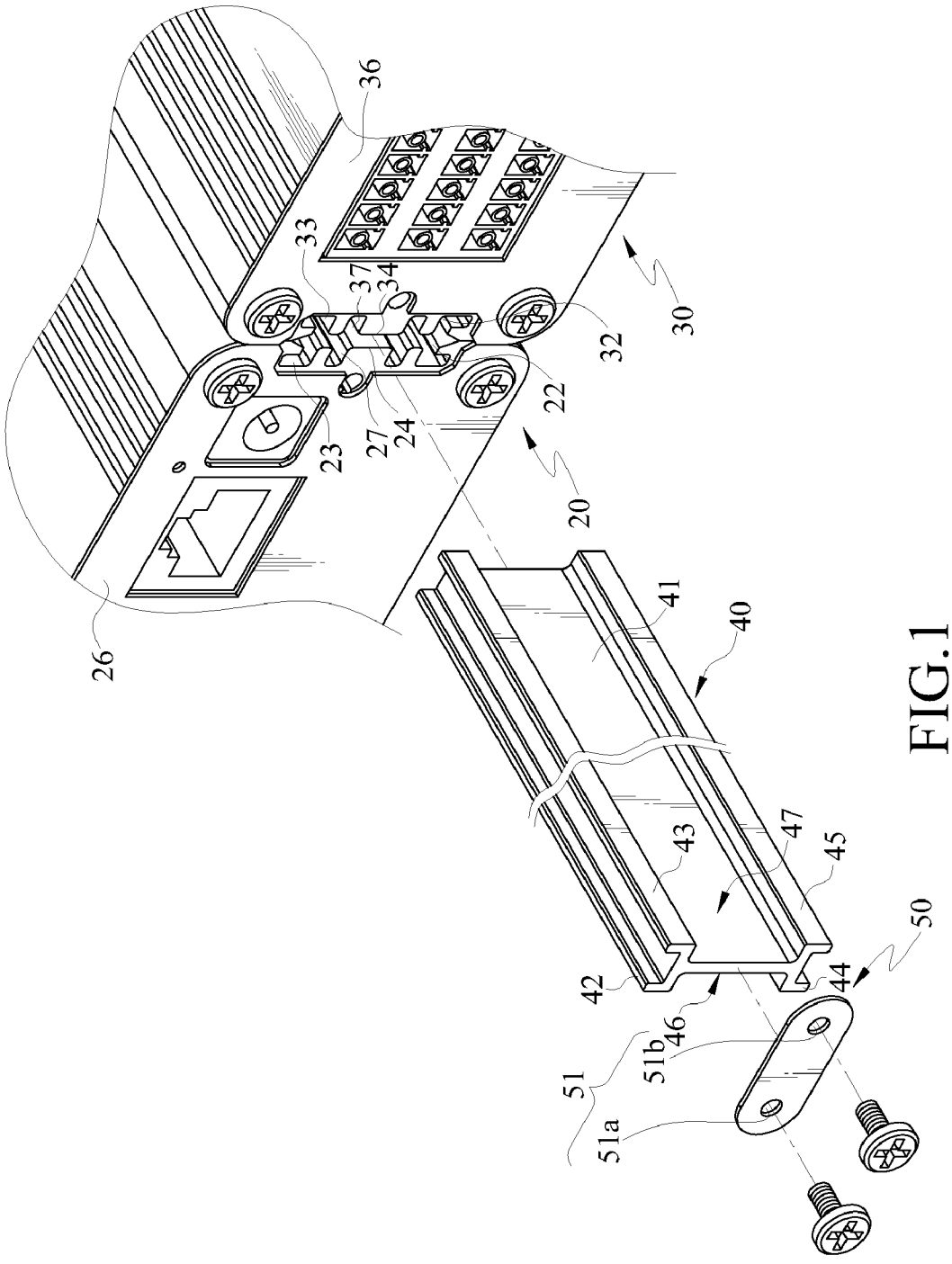

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FIG.1

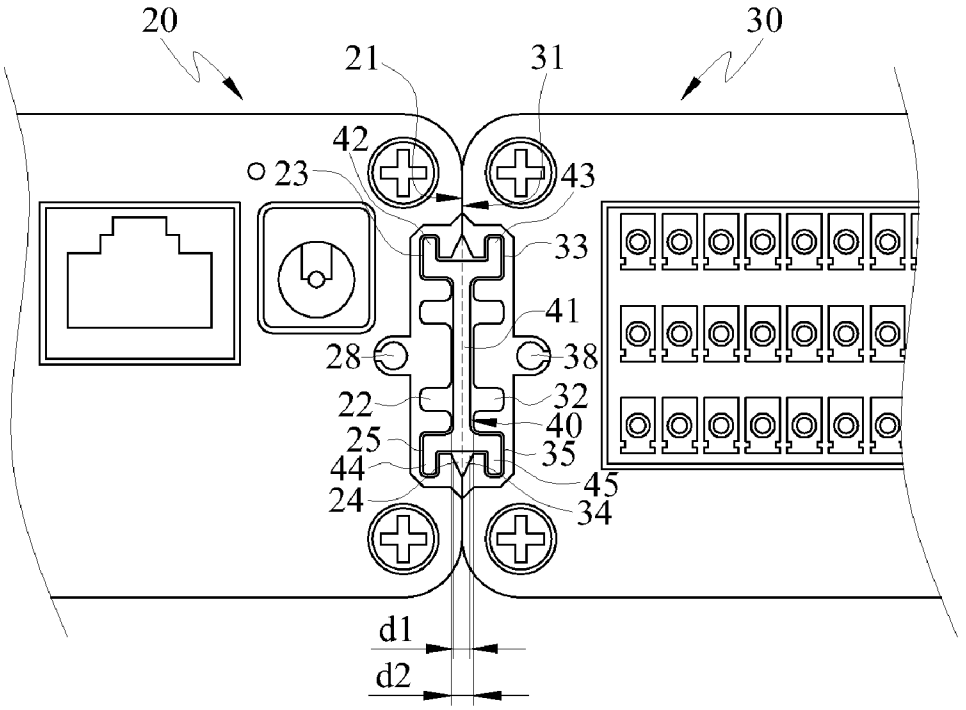

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FIG.2

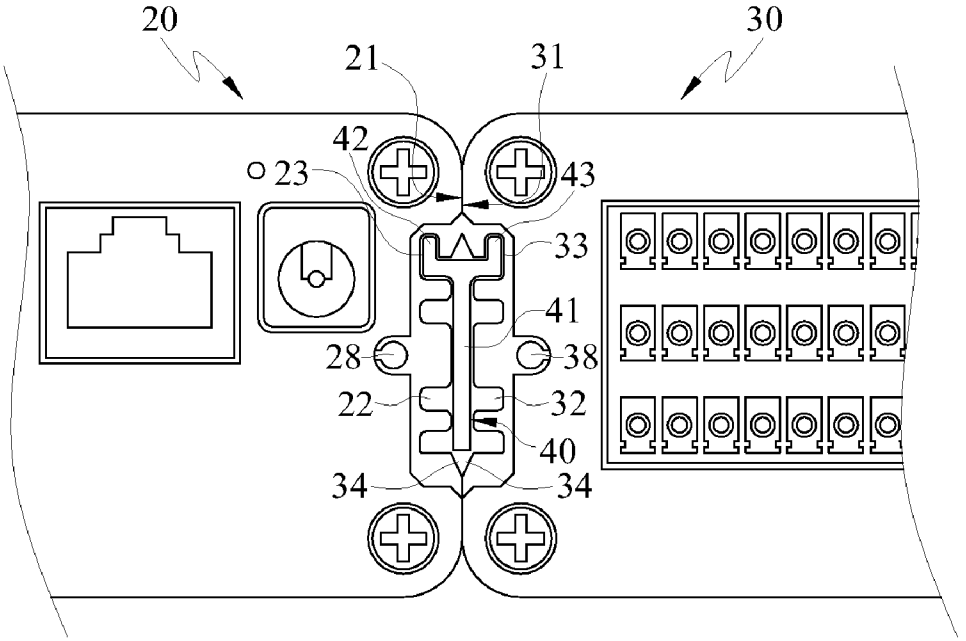

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FIG.3

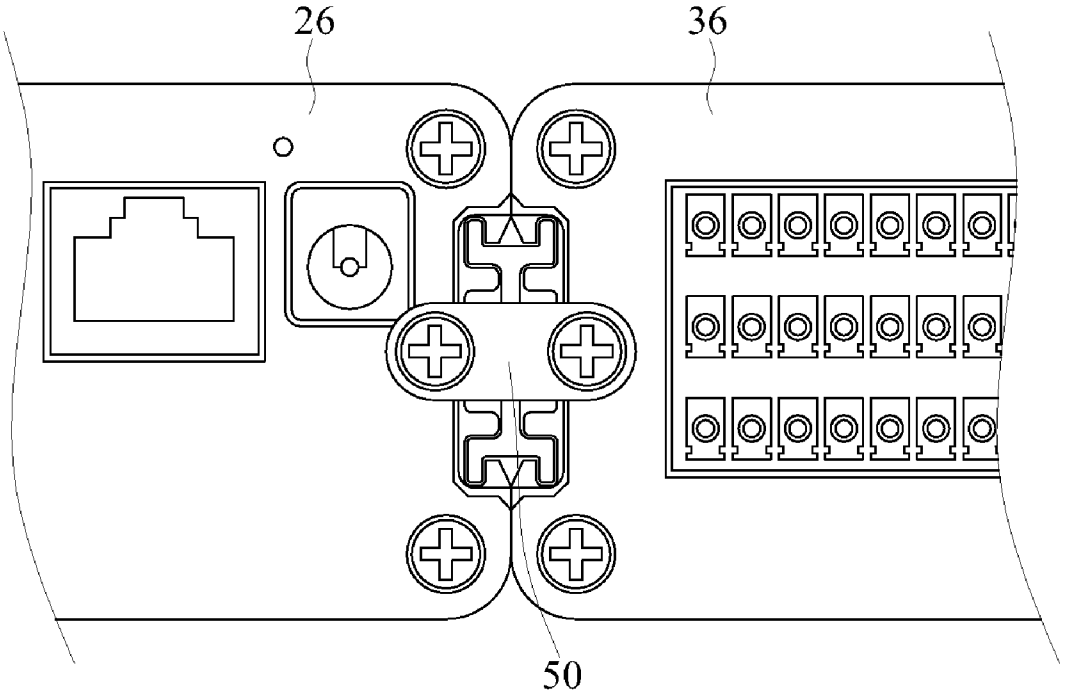


FIG.4

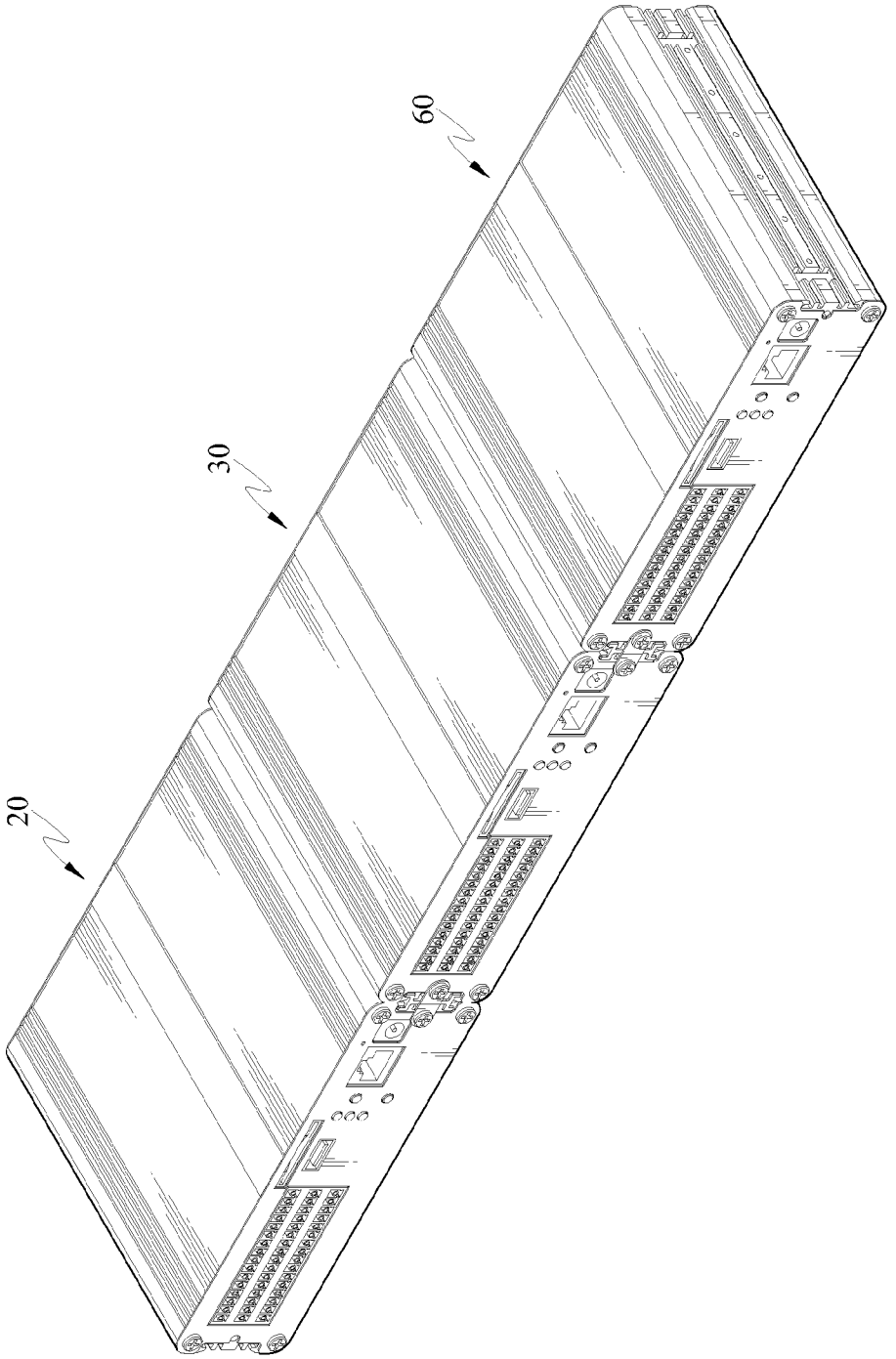


FIG.5

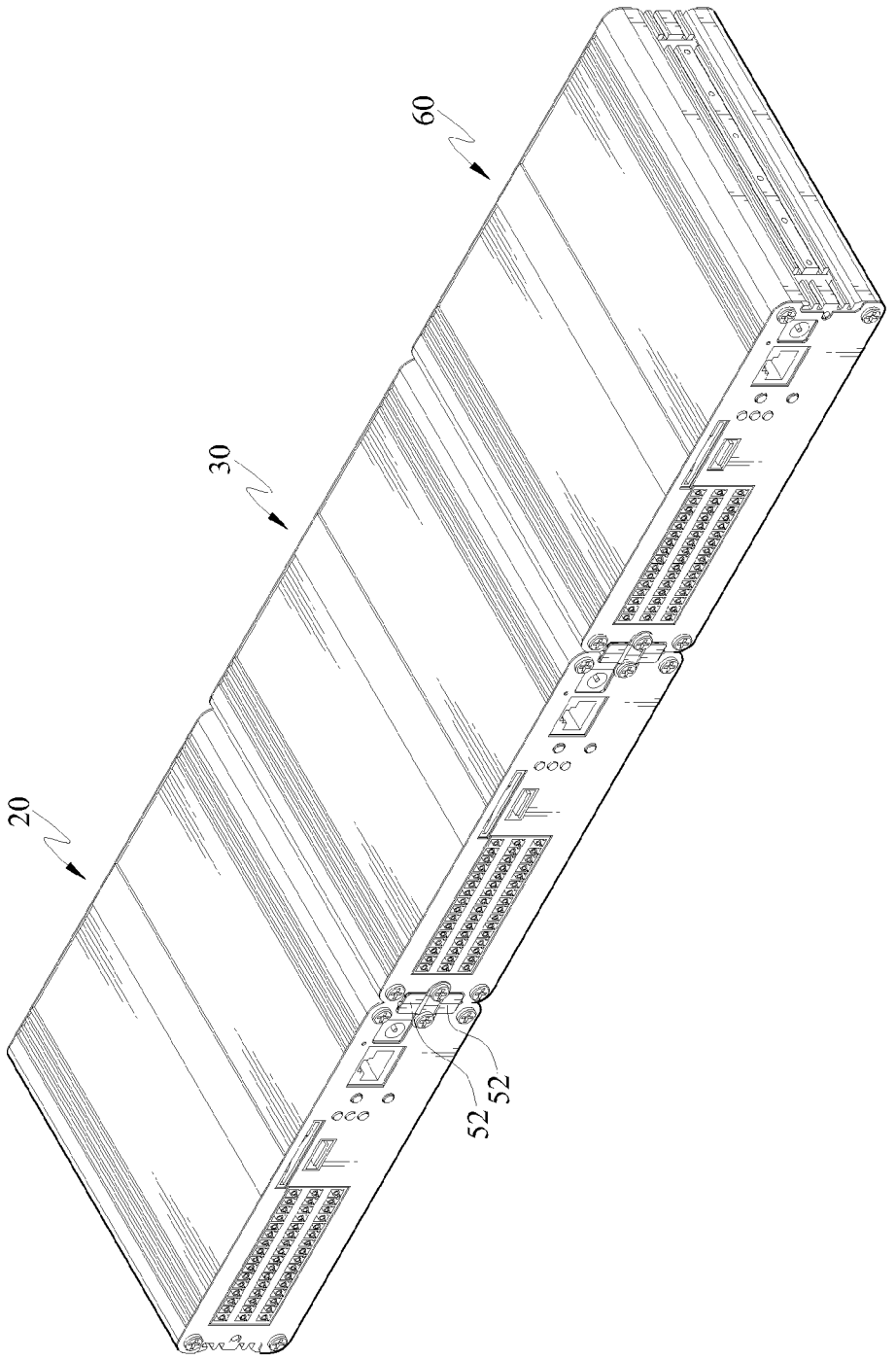


FIG.6

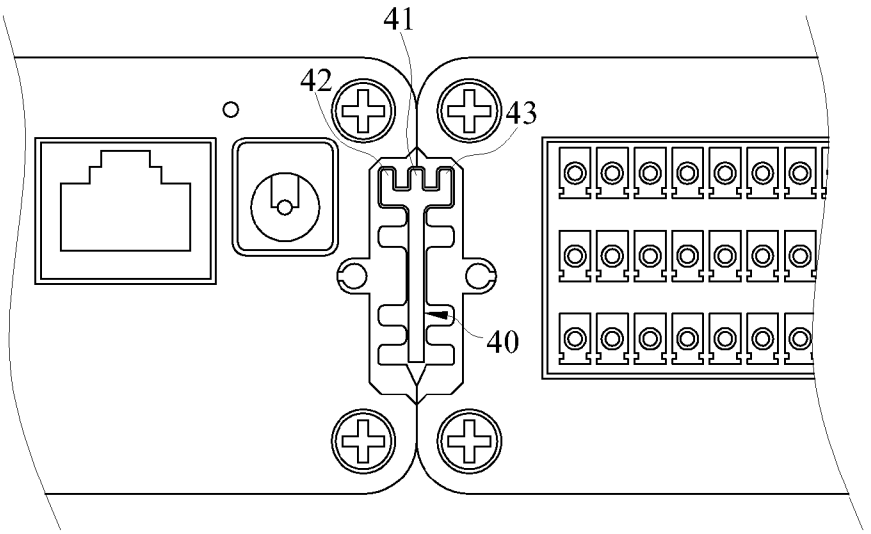


FIG.7

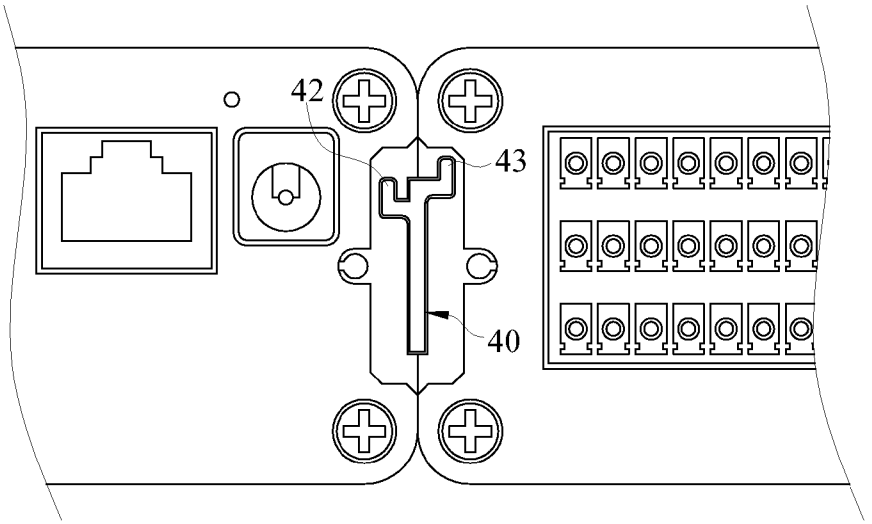


FIG.8

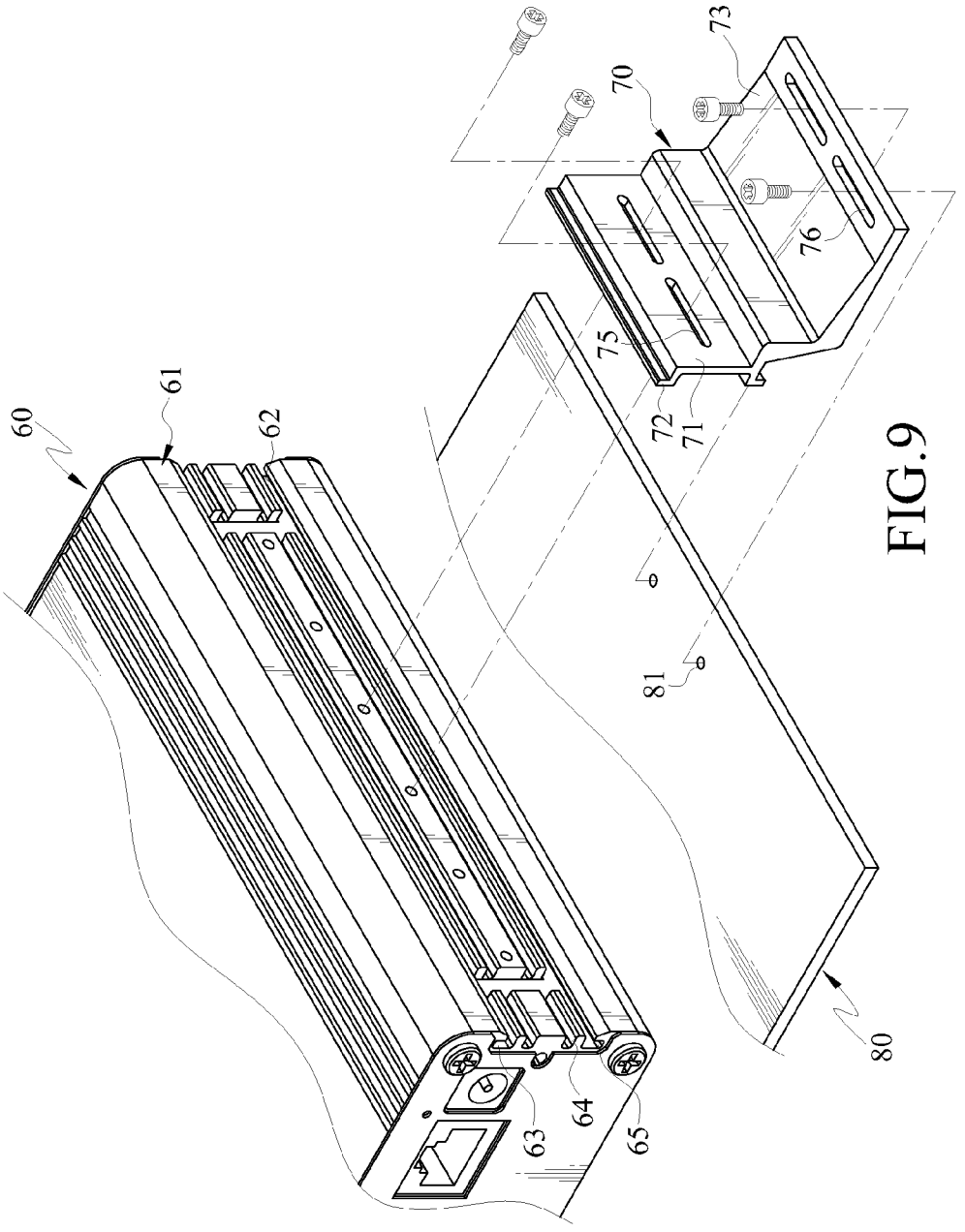


FIG.9

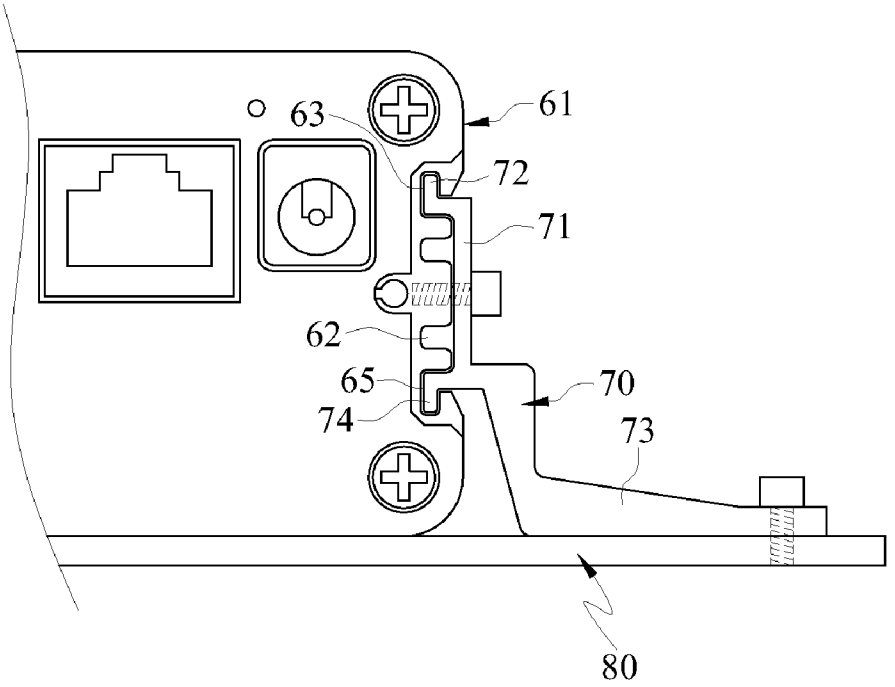


FIG.10

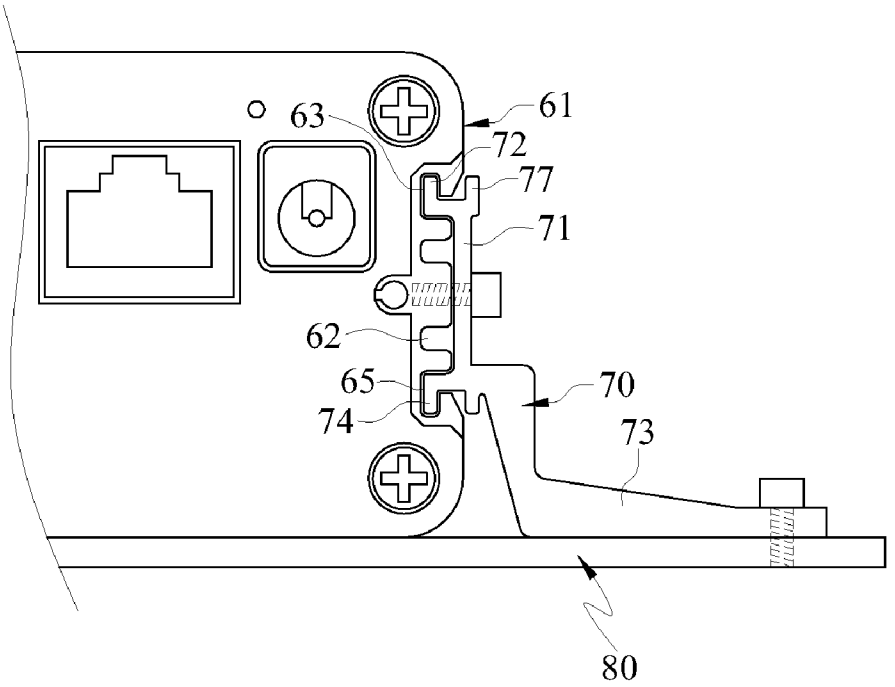


FIG.11

VIDEO SERVER SET

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a video server set, and more particularly to a video server set in which two video servers are connected through a joint member, and a video server set in which a video server and a support plate are connected through a fixing member.

[0003] 2. Related Art

[0004] In the past, to enjoy audio/video resources, the audio/video resources in a physical optical disk need to be played with a player, or a video file in a computer needs to be run. However, due to the rapid development of network technologies, various audio/video files and services provided by a video server can be enjoyed by connection to the video server through a network. Compared with an ordinary text file or graphics file, the audio/video file occupies more storage spaces, so that the audio/video file provider usually integrates multiple video servers to provide users with more audio/video options or more convenient services.

[0005] Conventionally, in the industry, a multicellular rack housing is generally used, and all the video servers are configured one by one in an accommodation frame of the rack housing to save the space. In order to fix each video server to the accommodation frame, lots of fixing members are needed. However, such a manner of fixing the video servers one by one is rather troublesome, and even a problem that the video server cannot be secured onto the rack housing only due to the loss of one of the fixing members may occur.

[0006] Therefore, a rackmount technology in which a plurality of video servers is connected in series and then fixed to the rack housing as a whole is developed. However, although it is easier to secure a single video server to the rack housing for use, the plurality of video servers connected in series is difficult to be regularly fixed on the rack housing.

[0007] For example, both ROC Patent No. 1265771 and ROC Patent No. 1265766 respectively disclose a cabinet rack fixing structure, in which a plurality of electronic devices is secured at the same side with a plurality of fixing members. However, such a method also requires a plurality of securing elements to perform the joint just like the conventional structure of fixing the video servers one by one. Moreover, the jointing area is quite small, so the connection between the video servers is not stable, and it is easy to cause irregularity of the joint or even disconnection due to accidental events such as external impact.

SUMMARY OF THE INVENTION

[0008] In order to solve the above problem, a video server set is provided. The video server set comprises a first video server, a second video server and a joint member. A first surface of the first video server has a first fastening groove, and the first fastening groove has a first chute portion and a first intermediate portion. The second video server has a second surface opposite to the first surface, in which the second surface has a second fastening groove, and the second fastening groove has a second chute portion and a second intermediate portion. The joint member has a main body portion, a first hook portion and a second hook portion. The main body portion corresponds to and is accommodated in the first intermediate portion and the second intermediate portion, the first hook portion is accommodated in and is hooked with the first chute portion, and the second hook portion is accommodated in and is hooked with the second chute portion.

[0009] The main body portion may have two opposite side surfaces, and the two side surfaces face the first video server and the second video server respectively. The first hook portion is configured at one of the two side surfaces of the main body portion, and the second hook portion is configured at the other of the two side surfaces of the main body portion.

[0010] According to an embodiment, the first hook portion and the second hook portion may be configured at end edges of the main body portion.

[0011] In order to enable the joint member to more stably connect the first video server and the second video server, the first fastening groove may further have a third chute portion, the second fastening groove may further have a fourth chute portion, and the video server set may further comprise a third hook portion and a fourth hook portion. The third hook portion is configured at the same side of the main body portion together with the first hook portion, and is accommodated in the third chute portion; while the fourth hook portion is configured at the same side of the main body portion together with the second hook portion, and is accommodated in the fourth chute portion. The first hook portion and the second hook portion are configured at one end edge of the two side surfaces, and the third hook portion and the fourth hook portion are configured at the other end edge of the two side surfaces.

[0012] According to an embodiment, the first video server may further have a third surface adjacent to the first surface, and the first fastening groove forms a first port on the third surface. The second video server may further have a fourth surface adjacent to the second surface, and the second fastening groove forms a second port on the fourth surface. Furthermore, the video server set may further comprise a baffle plate, in which two ends of the baffle plate are connected with a locking portion on the third surface and a locking portion on the fourth surface respectively, and the baffle plate shields a part of the first port and the second port.

[0013] The present invention also provides another video server set, which comprises a third video server and a fixing member. The third video server may be the first video server or the second video server as described above. A fifth surface of the third video server has a third fastening groove, and the third fastening groove has a fifth chute portion and a third intermediate portion. The fixing member has a main body portion, a fifth hook portion and a support portion, in which the main body portion corresponds to and is accommodated in the third intermediate portion, and the fifth hook portion is accommodated in the fifth chute portion. The support portion is connected with the main body portion, and leans against and is connected with a support plate, so that the fixing member is connected with the support plate.

[0014] The main body portion may have two opposite side surfaces, in which one of the side surfaces faces the fifth surface, and the fifth hook portion is configured at the side surface of the main body portion facing the fifth surface.

[0015] In order to enable the fixing member to be more stably connected with the third video server and the support plate, the third fastening groove of the third video server may further have a sixth chute, and the fixing member may further comprise a sixth hook portion. The sixth hook portion and the fifth hook portion are configured at two corresponding ends of

the same side of the main body portion, and the sixth hook portion is accommodated in a sixth chute portion.

[0016] According to an embodiment, the fifth hook portion or the sixth hook portion may be configured at an end edge of the main body portion.

[0017] In view of the above, the plurality of video servers, the joint member and the fixing member in the video server set are stably connected with each other by using the chute portions and the hook portions, and are fixed on the support plate of the rack housing. By disposing the chutes and the hooks of the joint member, the volume occupied by the video server set can be saved, and the problems of the complex joint manner and the unstable connection in the prior art can be alleviated.

[0018] These and other aspects of the present invention will become apparent from the following description of the preferred embodiment taken in conjunction with the following drawings, although variations and modifications therein may be affected without departing from the spirit and scope of the novel concepts of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The accompanying drawings illustrate one or more embodiments of the invention and, together with the written description, serve to explain the principles of the invention. Wherever possible, the same reference numbers are used throughout the drawings to refer to the same or like elements of an embodiment, and wherein:

[0020] FIG. **1** is an exploded view of a video server set according to an embodiment;

[0021] FIG. **2** is a back view of a video server set according to an embodiment;

[0022] FIG. **3** is a back view of a video server set according to an embodiment;

[0023] FIG. **4** is a back view of a video server set according to an embodiment;

[0024] FIG. **5** is an outside view of a video server set according to an embodiment;

[0025] FIG. **6** is an outside view of a video server set according to an embodiment;

[0026] FIG. **7** is a back view of a video server set according to an embodiment;

[0027] FIG. **8** is a back view of a video server set according to an embodiment;

[0028] FIG. **9** is an exploded view of a video server set according to an embodiment;

[0029] FIG. **10** is a back view of a video server set according to an embodiment; and

[0030] FIG. **11** is a back view of a video server set according to an embodiment.

DETAILED DESCRIPTION OF THE INVENTION

[0031] The detailed features and advantages of the present invention are described below in great detail through the following embodiments, the content of the detailed description is sufficient for those skilled in the art to understand the technical content of the present invention and to implement the present invention there accordingly. Based upon the content of the specification, the claims, and the drawings, those skilled in the art can easily understand the relevant objectives and advantages of the present invention.

[0032] The present invention provides a video server set, in which at least two video servers are connected with each other in series, and then fixed to a rack housing as a rackmount.

[0033] FIGS. **1**, **2** and **3** are an exploded view of the video server set according to an embodiment and back views according to different embodiments respectively.

[0034] The video server set comprises a first video server **20**, a second video server **30** and a joint member **40**. The first video server **20** and the second video server **30** are configured adjacently, and respectively have a first surface **21** and a second surface **31** opposite to each other. A first fastening groove **22** is disposed on the first surface **21**, and the first fastening groove **22** has a first chute portion **23** and a first intermediate portion **24**. The second surface **31** has a second fastening groove **32**, and the second fastening groove **32** has a second chute portion **33** and a second intermediate portion **34**. Therefore, when the first surface **21** contacts the second surface **31** correspondingly, a space for the first fastening groove **22** and the second fastening groove **32** is left.

[0035] The joint member **40** has a main body portion **41**, a first hook portion **42** and a second hook portion **43**. The main body portion **41** may be in a plate shape, and has two opposite side surfaces **46** and **47**; the side surface **46** and the side surface **47** respectively face the first video server **20** and the second video server **30**. The first hook portion **42** is configured at one of the two side surfaces of the main body portion **41**, for example, the side surface **46**; while the second hook portion **43** is configured at the other of the two side surfaces of the main body portion **41**, for example, the side surface **47**. A distance d**1** between the closest two surfaces of the first intermediate portion **24** and the second intermediate portion **34** is slightly larger than a thickness d**2** of the main body portion **41**, so that the main body portion **41** corresponds to and is accommodated in the first intermediate portion **24** and the second intermediate portion **34**. Similarly, the first hook portion **42** is accommodated in and is hooked with the first chute portion **23**, while the second hook portion **43** is accommodated in and is hooked with the second chute portion **33**.

[0036] The first chute portion **23** and the first hook portion **42** match in shape, while the second chute portion **33** and the second hook portion **43** match in shape. Therefore, the entire joint member **40** can be just completely accommodated in the space for the first fastening groove **22** and the second fastening groove **32**, and the first hook portion **42** and the second hook portion **43** can tightly buckle the first video server **20** and the second video server **30**.

[0037] The joint member **40** may only have the first hook portion **42** and the second hook portion **43**, as shown in FIG. **3**. However, according to an embodiment, in order to further stabilize the connection between the video servers, the joint member **40** may further have a third hook portion **44** and a fourth hook portion **45**, as shown in FIGS. **1** and **2**. Furthermore, to match with the joint member **40**, the first fastening groove **22** may further have a third chute portion **25**, and the second fastening groove **32** may further have a fourth chute portion **35**. The third hook portion **44** is accommodated in the third chute portion **25**, and is configured at the same side (for example, on the side surface **46**) of the main body portion **41** together with the first hook portion **42**. The fourth hook portion **45** is accommodated in the fourth chute portion **35**, and is configured at the same side (for example, on the side surface **47**) of the main body portion **41** together with the second hook portion **43**. The first hook portion **42** and the second hook portion **43** may be configured at one end edge of the two side

surfaces, and the third hook portion **44** and the fourth hook portion **45** may be configured at the other end edge of the two side surfaces.

[0038] In this manner, the front and rear ends of the first video server **20** are both hooked with the joint member **40**, and a displacement relative to the second video server **30** is not easily generated. Therefore, no matter in which direction a force is applied to the video server set, it is ensured that the first surface **21** contacts the second surface **31**, and the video server set is enabled to maintain the regular connection.

[0039] The first video server **20** may further have a third surface **26** adjacent to the first surface **21**, and the first fastening groove **22** forms a first port **27** on the third surface **26**. Likewise, the second video server **30** further has a fourth surface **36** adjacent to the second surface **31**, and the second fastening groove **32** forms a second port **37** on the fourth surface **36**. The third surface **26** and the fourth surface **36** may be rear surfaces of the first video server **20** and the second video server **30** respectively.

[0040] The joint member **40** may slide into the space formed by the first fastening groove **22** and the second fastening groove **32** from the first port **27** and the second port **37**, and sequentially engage the first video server **20**, the joint member **40** and the second video server **30** through the first hook portion **42** and the second hook portion **43**. Furthermore, it can be known in FIG. **1** that, the joint member **40** has a certain length to increase the contact area between the joint member **40** and the first video server **20** as well as the second video server **30**. In this manner, the connection between the first video server **20** and the second video server **30** becomes more stable. According to an embodiment, the material of the joint member **40** may be metal or alloy, which ensures the strength of the joint member **40**, thereby preventing the joint member **40** from being deformed or broken due to accidental events such as external impact.

[0041] Preferably, the joint member **40** is made of metal or other rigid materials, and the length thereof is not larger than the length from the front surface to the rear surface of the video server. Furthermore, the height of the joint member **40** is not larger than the height of the video server either, so that the joint member **40** can be completely accommodated in the first fastening groove **22** and the second fastening groove **32**.

[0042] The following content is illustrated with reference to FIG. **4** in combination with FIGS. **1** and **2**.

[0043] According to an embodiment, the video server set may further comprise a baffle plate **50**, to prevent the joint member **40** from sliding out of the first port **27** and the second port **37** due to such reasons as that the first video server **20** or the second video server **30** is moved. Locking portions **28** and **38** are disposed on the third surface **26** and the fourth surface **36** respectively. Two corresponding locking holes **51** (**51***a* and **51***b*) are respectively configured at two ends of the baffle plate **50**, and are respectively connected with the locking portions **28** and **38**. When the baffle plate **50** is fixed on the third surface **26** and the fourth surface **36**, the baffle plate **50** shields a part of the first port **27** and the second port **37**. The baffle plate **50** may be in a transverse plate shape.

[0044] The video server set configured and assembled with the joint member **40** and the baffle plate **50** may be as shown in FIG. **5**. Besides the first video server **20** and the second video server **30**, the video server set may also comprise other video servers, for example, a third video server **60**. Joint members **40** are engaged between the first video server **20** and the second video server **30**, and engaged between the second video server **30** and the third video server **60** respectively, so that the entire video server set is regularly connected in series.

[0045] According to an embodiment, besides the main body in the transverse plate shape, the baffle plate **50** may also have upper and lower fins **52** as shown in FIG. **6**, so as to more reliably seal the first port **27** and the second port **37**.

[0046] Furthermore, the first hook portion **42** and the second hook portion **43** may be configured at end edges of the two side surfaces of the main body portion **41**, as shown in FIG. **3**. However, the first hook portion **42** and the second hook portion **43** may be symmetrically or asymmetrically disposed with each other. The first hook portion **42** and the second hook portion **43** may be configured at a distance away from an end edge of the main body portion **41**, as shown in FIGS. **7** and **8**.

[0047] The present invention further provides the video server set, which comprises the third video server **60** and a fixing member. The fixing member is used for fixing the entire video server set on a support plate of a rack housing.

[0048] FIGS. **9** and **10** are an exploded view and a back view of a video server set according to an embodiment respectively.

[0049] Similar to the above buckling structure, a fifth surface **61** of the third video server **60** has a third fastening groove **62**, and the third fastening groove **62** has a fifth chute portion **63** and a third intermediate portion **64**. Besides a main body portion **71** and a fifth hook portion **72**, the fixing member **70** further has a support portion **73**. The main body portion **71** corresponds to and is accommodated in the third intermediate portion **64**, and the fifth hook portion **72** is accommodated in the fifth chute portion **63**. The support portion **73** is connected with the main body portion **71**, and leans against and is connected with a support plate **80**, so that the fixing member **70** is connected with the support plate **80**.

[0050] The main body portion **71** may be in a plate shape and has two opposite side surfaces, in which one side surface faces the fifth surface **61**. The fifth hook portion **72** is configured at a side surface of the main body portion **71** facing the fifth surface **61**. The support portion **73** may be in an L shape, a vertical side thereof is connected with the main body portion **71**, and a bottom side thereof may be attached to the support plate **80**.

[0051] It should be noted that, the third video server **60** may be the first video server **20** or the second video server **30** in FIG. **1**. The fifth surface **61** of the third video server **60** is hooked with the fixing member **70**, and a side surface thereof opposite to the fifth surface **61** may be connected in series with other video servers through the joint member **40**.

[0052] The third fastening groove **62** of the third video server **60** may further have a sixth chute **65**, and the fixing member **70** may further comprise a sixth hook portion **74**, so that the fixing member **70** is more stably combined with the third video server **60**. The sixth hook portion **74** and the fifth hook portion **72** are configured at two corresponding ends of the same side of the main body portion **71**, and the sixth hook portion **74** is accommodated in and is hooked with the sixth chute portion **65**.

[0053] The main body portion **71** may further comprise a through hole **75** in a long strip shape, so as to lock the fixing member **70** to a locking hole of the fifth surface **61**. Similarly, the support portion **73** may also have a through hole **76** in a long strip shape, and the through hole **76** is locked to a locking hole **81** of the support plate **80**. Therefore, the fixing member **70** may be locked to the third video server **60** and the support

plate **80** of the rack housing simultaneously, so that the entire video server set is fixed on the support plate **80**.

[0054] According to an embodiment, the fifth hook portion **72** or the sixth hook portion **74** may be configured at an end edge of the main body portion **71**. However, the fifth hook portion **72** or the sixth hook portion **74** may also be configured at a distance away from the end edge of the main body portion **71**, as shown in FIG. **11**. Moreover, in the embodiment of FIG. **11**, the top end of the main body portion **71** may also have a blocking portion **77**. The blocking portion **77** is configured to further ensure that the fifth hook portion **72** may not be disengaged from the fifth chute portion **63**.

[0055] In view of the above, the plurality of video servers and the joint member in the video server set are connected in series stably and regularly into the rackmount by using the chute portions and the hook portions, and are integrated into the video server set conforming to the specification of the rack housing. Besides, by disposing the chutes and the hooks of the joint member, the video servers can be connected in series through contact, thereby saving the volume occupied by the entire video server set. In addition, the video server set is fixed on the support plate of the rack housing as a whole through the fixing member, which further ensures that the entire video server set may not leave the fixed position where it should be located due to earthquake, external impact or other reasons.

[0056] Moreover, the engagement of the chute portion with the hook portion does not require a large number of securing elements as in the prior art, which not only saves the hardware cost, but also greatly simplifies the operating process and time required in the configuration of the video server set. Besides, the contact area of the chute portion and the hook portion is much larger than that of the securing elements in the prior art, so the connection is more stable and reliable.

What is claimed is:

1. A video server set, comprising:

a first video server, wherein a first surface of the first video server has a first fastening groove, and the first fastening groove has a first chute portion and a first intermediate portion;

a second video server, wherein the second video server has a second surface opposite to the first surface, the second surface has a second fastening groove, and the second fastening groove has a second chute portion and a second intermediate portion; and

a joint member, having a main body portion, a first hook portion and a second hook portion, wherein the main body portion corresponds to and is accommodated in the first intermediate portion and the second intermediate portion, the first hook portion is accommodated in and is hooked with the first chute portion, and the second hook portion is accommodated in and is hooked with the second chute portion.

2. The video server set according to claim **1**, wherein the main body portion has two opposite side surfaces, and the two side surfaces face the first video server and the second video server respectively; the first hook portion is configured on one of the two side surfaces of the main body portion, and the second hook portion is configured on the other of the two side surfaces of the main body portion.

3. The video server set according to claim **1**, wherein the first hook portion and the second hook portion are configured at end edges of the main body portion.

4. The video server set according to claim **1**, wherein the first fastening groove further has a third chute portion, and the second fastening groove further has a fourth chute portion, the video server set further comprising:

a third hook portion, configured at the same side of the main body portion together with the first hook portion, and accommodated in the third chute portion; and

a fourth hook portion, configured at the same side of the main body portion together with the second hook portion, and accommodated in the fourth chute portion,

wherein the first hook portion and the second hook portion are configured at one end edge of the two side surfaces, and the third hook portion and the fourth hook portion are configured at the other end edge of the two side surfaces.

5. The video server set according to claim **1**, wherein the first video server further has a third surface adjacent to the first surface, and the first fastening groove forms a first port on the third surface; the second video server further has a fourth surface adjacent to the second surface, and the second fastening groove forms a second port on the fourth surface, the video server set further comprising:

a baffle plate, wherein two ends of the baffle plate are connected with a locking portion on the third surface and a locking portion on the fourth surface respectively, and the baffle plate shields a part of the first port and the second port.

6. A video server set, comprising:

a third video server, wherein a fifth surface of the third video server has a third fastening groove, and the third fastening groove has a fifth chute portion and a third intermediate portion; and

a fixing member, having a main body portion, a fifth hook portion and a support portion, wherein the main body portion corresponds to and is accommodated in the third intermediate portion, the fifth hook portion is accommodated in the fifth chute portion, and the support portion is connected with the main body portion, and the support portion leans against and is connected with a support plate, so that the fixing member is connected with the support plate.

7. The video server set according to claim **6**, wherein the main body portion has two opposite side surfaces, one of the side surfaces faces the fifth surface, and the fifth hook portion is configured at the side surface of the main body portion facing the fifth surface.

8. The video server set according to claim **6**, wherein the fifth hook portion is configured at an end edge of the main body portion.

9. The video server set according to claim **6**, wherein the third fastening groove of the third video server further has a sixth chute, the fixing member further comprises a sixth hook portion, the sixth hook portion and the fifth hook portion are configured at two corresponding ends at the same side of the main body portion, and the sixth hook portion is accommodated in the sixth chute portion.

10. The video server set according to claim **9**, wherein the sixth hook portion is configured at an end edge of the main body portion.

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